

### ABSTRACT OF THE DISCLOSURE

On a wafer, patterns of arrayed waveguide gratings are formed. Each arrayed waveguide grating has an arcuate shape obtained by arranging two curved-line portions convexed in the same direction at a predetermined spacing and connecting respective end portions thereof with two mutually parallel straight lines. These arrayed waveguide gratings are cut out along straight cutting paths and curved cutting paths in which two arcuate portions of the same shape are arranged side by side in a lateral direction. Thus, a larger number of chips can be produced as compared with a case where each array waveguide grating is cut out in a rectangular shape. Ultrasonic machining techniques or sandblast machining techniques are suitable for the cutting operation.